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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|----------------------------|------------------------|
| 10/770,708 | 02/03/2004 | Christian Gartner | 100727-63/ Heraeus 414 | 1315 |
| 27384 | 7590 | 09/13/2010 | | |
| Briscoe, Kurt G. Norris McLaughlin & Marcus, PA 875 Third Avenue, 8th Floor New York, NY 10022 | | | EXAMINER SINGH, SUNIL K | |
| | | | ART UNIT 3732 | PAPER NUMBER |
| | | | MAIL DATE 09/13/2010 | DELIVERY MODE PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/770,708 | Applicant(s) GARTNER ET AL. | |
| | Examiner Sunil K. Singh | Art Unit 3732 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 July 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The amendment filed 07/28/2008 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: The applicant has amended the phrase "dental prostheses" to "denture teeth." Denture teeth further limits the specification from the original broad dental prostheses and does have proper support in the specification as originally filed.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 18,19,22,25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas in view of Dillier (US 2002/0110786)

Thomas discloses a method and corresponding system for carrying out said method of creating a dental prosthesis comprising scanning a patient's teeth (column 10, lines 10-14); recording and digitizing 3-D anatomical relationships in an oral cavity

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(i.e. step 20); and processing the data (i.e. digital map Q) received from the anatomical relationships in such a way that relevant anatomical structures for virtual placement of teeth (i.e. digital map M) are securely affixed so that a complete virtual model (i.e. merged image N) can be obtained for direct manufacture of a denture base according to the digital data (column 12, lines 1-3 and column 14, lines 51-55). Thomas also discloses the step of simulating mandibular movements on a computer by providing various views (i.e. R) as a positioning aid (column 13, lines 45-49). Thomas additionally discloses the prosthesis can be rapid prototyped (column 10, lines 53-57). Examiner further notes that the scanning of the patient's oral cavity includes the entire cavity (column 13, lines 14-19), wherein occlusion rims and bite rims are held in the art as equivalent structures since occlusion is defined as the way the upper and lower teeth bite together. However, Thomas fails to disclose a method that includes: scanning fabricated teeth to produce 3D data records of fabricated teeth; selecting fabricated teeth from 3D data records; and virtually placing the teeth into the virtual model.

Dillier teaches a method of manufacturing a dental prosthesis (abstract) that includes: scanning fabricated teeth to produce 3D data records of fabricated teeth; selecting fabricated teeth from 3D data records; and virtually placing the teeth into the virtual model [0045] (see claim 8). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Thomas to include the method taught by Dillier, in order to provide a method of manufacturing a dental prosthesis that is less error prone and easier to automate.

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3. Claim 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas in view of Dillier as applied to claim 19 above, and further in view of Baumrind (US 6,621,491).

Thomas/Dillier discloses a method of creating a dental prosthesis as previously described but fails to show that an oral situation is recorded directly using a 3-D camera. Baumrind, however, teaches a method for recording 3-D diagnostic data of an oral situation using a 3-D camera (30, Figure 1; col 3, ln 35-40 and 48-51). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to record an oral situation using a 3-D camera in order to provide a holistic view of the patient for treatment purposes as taught by Baumrind.

4. Claim 21 rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas in view of Dillier as applied to claim 19 above, and further in view of Chishti (US 5,975,893).

Thomas/Dillier discloses a method of creating a dental prosthesis as previously described but fails to show scanning a plaster model. Chishti, however, teaches scanning a plaster cast of teeth to obtain 3-D data (col 5, ln 38-48). Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to scan a plaster model so that the patient is not exposed to X-rays as taught by Chishti.

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5. Claims 23,24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas in view of Dillier as applied to claim 19 above, and further in view of Jordan et al. (US 6,152,731).

Thomas/Dillier discloses the method of creating a dental prosthesis as previously described but fails to show the step of inspecting function and occlusion on the computer. Jordan, however, teaches a method for creating a dental model whereby occlusion of a virtual model is inspected on the computer (col 23, ln 62-64). Therefore, it would have been obvious to one having ordinary skill in the art at the time of Applicant's invention to inspect function and occlusion of the digitized virtual model as taught by Jordan in order to test it to ensure it has been created properly and is in working order. As to claim 24, Jordan further discloses the placement of teeth is manually corrected and a new calculation is performed to adapt to the bite and occlusion data (col 21, ln 17-45).

Response to Arguments

6. Applicant's arguments in regards to claim 18 have been considered but are moot in view of the new ground(s) of rejection.

Response to Arguments

7. Applicant's arguments filed 07/08/2010 have been fully considered but they are not persuasive. Applicant argues that the amendment to the specification to include "denture teeth" is supported by original claim 1. However, the examiner respectfully disagrees. Claim 1 as originally filed, only calls for "previously scanned teeth from a data record". The claim does not specifically state that the scanned teeth are in fact

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denture teeth. The teeth being scanned could very well be the actual teeth of the patient and not denture teeth. Therefore, by amending the specification to "denture teeth", the applicant is limiting the scope of the invention without having the proper support in the disclosure as originally filed. In regards, to applicant arguments that Dillier is not being used in the oral cavity, that limitation has been met by Thomas and the examiner is using Dillier to merely show the use of scanning prefabricated teeth. The Applicant further argues that the combination does not show the limitation of element (e) of claim 19. However, the Examiner respectfully disagrees. Thomas teaches recording the anatomical relationships in the oral cavity and processing that data in such a way that the dentures are securely affixed to the anatomical structure (gums) and the virtual model is then obtained (column 13, lines 30-45). Therefore, it is the Examiner's position that Thomas meets the limitation as claimed.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sunil K. Singh whose telephone number is (571) 272-3460. The examiner can normally be reached on Monday-Friday (Increased Flex Schedule).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cris L. Rodriguez can be reached on (571) 272-4964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

09/09/2010

/Sunil K Singh/
Examiner, Art Unit 3732

/Cris L. Rodriguez/
Supervisory Patent Examiner, Art Unit 3732